APPENDIX C

TH-0681 PCT, Report of additional experiments

2-Alkyl branched alcohols, having a total of 14, 15 and 16 carbon atoms respectively including their alkyl branches which were methyl, ethyl, propyl, butyl or hexyl, were purchased and used. All branched alcohols were characterised by ^{13}C NMR and found to be greater than 97 % pure. All alcohols were converted to alcohol sulphate sodium salts with $ClSO_3H$ followed by neutralisation with NaOH, as described in Example 6 of the application.

The branched alcohol sulphates were subjected to detergency tests using the laboratory radiotracer detergency procedure of W.T. Shebs and B.E. Gordon, J. Am. Oil Chem. Soc., 45 (1968) 377 and J. Am. Oil Chem. Soc., 46 (1969) 537, as described on pages 8-11 of the application. The branched alcohol sulphates were tested against multisebum or triolein soiled permanent press 65/35 polyester/cotton (PPPE/C) fabric. The formulation in each case was 0.2 g/L alcohol sulphate, 0.34 g/L builder (Zeolite-4A) and 0.2 g/L Na_2CO_3.

The results, expressed as % soil removal, are presented in the following Tables 1 and 2.

Table 1

Effect of 2-alkyl branched alcohol sulphates on multisebum soil removal

Branching	15-Carbon alcohol sulphate		16-Carbon alcohol sulphate	
	tested at 10 °C	tested at 32 °C	tested at 10 °C	tested at 32 °C
Methyl	17.6	---	17.6	38.3
Ethyl	---	---	14.0	34.1
Propyl	12.4	31.1	---	---
Butyl	---	---	6.7	32.9
Hexyl	4.0	7.3	7.5	13.4

LSD_{95} (Least Significant Difference at 95% probability) is 2.0 at 10 °C and 4.8 °C at 32 °C

Table 2

Effect of 2-alkyl branched alcohol sulphates on triolein soil removal

Branching	14-C alcohol sulphate		15-C alcohol sulphate		!6-C alcohol sulphate	
	at 10 °C	at 32 °C	at 10 °C	at 32 °C	at 10 °C	at 32 °C
Methyl	---	---	---	---	21.4	34.7
Hexyl	3.5	5.2	4.8	13.2	7.5	16.0

LSD_{95} (Least Significant Difference at 95% probability) is 4.3 at both temperatures